N91-15029

COMPACT REFLECTION NEBULAE, A TRANSIT PHASE OF EVOLUTION FROM POST-AGB TO PLANETARY NEBULAE?

J.Y. Hu,[1,2] and S. Slijkhuis[2]
[1]Beijing Observatory, Academia Sinica, China
[2]Astronomical Institute, University of Amsterdam,
Roetersstraat 15, 1018 WB Amsterdam, The Netherlands

In a search of the optical counter-part of candidates of proto planetary nebulae on the plates of UK Schmidt, ESO Schmidt and POSS, 5 compact reflection nebulae associated with post-AGB stars were found. They are listed in table 1.

Table 1. IRAS sources in this study

IRAS NAME	V	d	Note
17514-1555	14.7	15"	
17195-2710	17	6	
16559-2857	14	12	prism sp: K type
16552-3050	14	12	prism sp: K type
17150-3224	15	14	brightened in period 1958-1983

A simplified model (dust shell is spherical symmetric, expansion velocity of dust shell is constant, $Q_{sca}(\lambda)$ is isotropic, and the dust grain properties are uniform) is used to estimate the visible condition of the dust shell due to the scattering of the core star's light. Under certain conditions (mass loss rate $\dot{M}$ at latest stage of AGB, the delay time dt after mass loss stopped and distance to objects) the compact reflection nebulae can be seen on the POSS or ESO/ SRC survey plates.